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Effect of Nicotine and Cigarette Smoke on Secretin Secretion.

The objectives of this study are: (1) to determine whether nicotine or cigarette smoke does inhibit pancreatic secretion of water and bicarbonate; and (2) if so, to determine whether the inhibition is mediated by suppression of the gastrointestinal hormone secretin or by a direct effect on the pancreas or both.

The acute effects of intravenously infused nicotine or inhaled cigarette smoke on basal as well as HCl-stimulated serum secretin concentrations and on pancreatic volume and bicarbonate secretion will be studied in dogs.

In alteration of the original experimental design which the investigator has used in the past year, he will perform these studies in alert dogs carrying chronic gastric as well as pancreatic fistulas. Experimentation with alert dogs will circumvent the major problems that have been encountered using anesthetized animals. These problems consisted primarily of severe depression of exocrine pancreatic secretion as well as suppression of secretin release.

Activation Date: January 1, 1975

Current Grant Level: \$37,790.

1005025564

G-6A